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# Editorials

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## EXECUTIVE MANAGEMENT OF INFORMATION IN THE ACADEMIC HEALTH CENTER

### *Background*

In January 1984, the Association of Academic Health Centers (AAHC) issued the report *Executive Management of Computer Resources in the Academic Health Center*. The report addressed the problems associated with acceleration in the development of computer applications in health care. Currently, most academic health centers own a great deal of hardware. However, much of it is becoming obsolete; acquisition of new equipment is unplanned; and interface between workstations is often not intended or not possible. Thus, the applications in patient care and education are extremely limited, the applications in research are somewhat more advanced but suffer from the intense competition for funding, and it is only in a few areas, frequently accounting and payroll, that any sophistication in the implementation of computer technology is shown.

The first stages of computer applications allow us to do tasks more quickly and effectively than before. Next, they enable us to do things that had not been considered possible, but eventually the technology transforms our very lifestyles and the entire milieu in which we work. In order to make effective use of these advances, however, and to control the transformation effected by them rather than be controlled totally by it, we must plan for the careful integration of information in all departments of the health center.

The authors take as a given that few chief administrative officers of academic health centers are knowledgeable about or conversant with the spectrum of computer applications, and that professional data processing personnel rarely possess the clinical, research, or educational background to provide the needed leadership. The first action, therefore, according to the report, is to create a position equivalent to an assistant vice president for information resources. With the creation of this post assumed, the report then examines key considerations with respect to the administration of data processing resources and their applications in education, research, and patient care.

Drawing upon *The Management of Information in Academic Medicine* [1], published by the Association of American Medical Colleges, the report

bases its suggestions for the management of computer resources upon the following three principles: (1) homogeneity of information transfer is essential to the effective use of information; (2) complex organizations need a corporate concept of how information will be managed to support the corporate goals; and (3) the system configuration must fit the corporate organization.

Networking, then, is the key to a successful corporate concept, and the focus for the development of an action plan to effect the integrated management of information for the entire academic health center, with the vice president for information resources playing the central role.

Although the document envisions a radical change in the configuration of libraries, it does not explore the possible role of the health sciences librarian nor the potential of the valuable resources already in place that can be tapped for the implementation of an integrated information system.

*Executive Management of Information in the Academic Health Center*, the response of the Medical Library Association and the Association of Academic Health Science Library Directors to the AAHC's report, does precisely that. This response was submitted to the AAHC in March 1985, and was endorsed by the AAHC in April.

## EXECUTIVE MANAGEMENT OF INFORMATION IN THE ACADEMIC HEALTH CENTER

### *Report*

Rapid advances in computer technology and the need to develop an integrated institutional information system to manage the academic health center's information resources dictate the modification of the role of the academic health center library and other administrative, service, and teaching units. To accomplish this, and to achieve its mission of patient care, education, and research, the academic health center must use wisely its four major resources—people, money, buildings, and information. While computer technology is quickly changing, the only element in today's electronic world which we know will exist in the future is information itself. It is, therefore, of critical importance that academic health center librarians and others in the academic health center who have an understanding of the practical applications and uses of information play a key role in the design of inte-

grated information systems. It is also important that the academic health center library be a primary access and distribution point for academic information. Professional societies and schools must work together to foster the science of information management. The academic health center must develop a structure that is amenable to the rapid adoption of computer and other electronic technologies, not losing sight of the fact that the computer is but a tool for the management of information.

While many academic health centers are not well positioned to quickly adopt computer technology for use in integrated information systems, within these centers academic health center libraries occupy a unique position with respect to the electronic management of information. Since the 1960s, health sciences libraries have been providing computer literature searches to their users and applying computer techniques to the management of library tasks. Because medical librarians have been innovators in the application of computer technology, the profession of health sciences librarianship has a substantial pool of technical and planning expertise among its members.

The National Library of Medicine's (NLM) pioneering application of computer technology to the production of the world's major medical bibliography, *Index Medicus*, enabled medical librarians internationally to replace manual searching methods. In concert with medical libraries, NLM also designed a network of regional medical libraries so that all medical libraries could share the biomedical journal articles and books identified in searching the NLM databases. The electronic and bibliographic regional medical library network is the only national network in which all academic health centers participate. It is from this perspective that the Medical Library Association (MLA) and the Association of Academic Health Sciences Library Directors (AAHSLD) make recommendations on the executive management of information in the academic medical center.

The Association of Academic Health Centers (AAHC) report draws some of its conclusions and recommendations from two reports on information handling by computer technology published by the Association of American Medical Colleges [2, 3]. The Matheson-Cooper Report provides a blueprint for the future academic health center library. The report describes a sixfold role for the newly evolving species of the academic health center library, the Academic Information Management (AIM)

library:

- *Curatorship*—the maintenance of a repository of resources that meets the primary information needs of the institution.
- *Education*—the instruction of individuals in the concepts of information management and control, in the development of personal information systems, and in the skills needed to access information efficiently.
- *Access*—the location and transfer of information through the provision of documents and facts as well as by other means.
- *Research*—the study of properties of information as an academic discipline.
- *Brokering*—the intelligent management of information through its location, selection, and reorganization for an individual's use.
- *Technical consulting*—the provision of advice and assistance in developing and interfacing information storage, transfer, and retrieval systems.

Following the publication of the Matheson-Cooper Report, the Boards of Directors of AAHSLD and MLA confirmed that new guidelines were needed for academic medical center libraries and undertook their development with financial support from NLM and the Council on Library Resources.

The AAHC report, the Matheson-Cooper Report, and the AAHSLD/MLA guidelines for the academic health center libraries share two premises: (1) academic health centers must plan the application of computer technology in a systematic way, and (2) all academic information systems of the health center must be integrated. A third premise which the last two reports share is that the academic health center library should be a major access point for all institutional databases.

#### *Recommendations Regarding Requirements for Executive Management of Academic Information Resources in Academic Health Centers*

Given the premise that academic medical centers must quickly adopt the use of computer technology and integrate all information systems to be more effective in fulfilling the goals of patient care, education, and research, it is clear that the academic health center must develop and adopt an information management policy. In the development of a policy on, and a system for, information management, these guidelines should apply:

1. Institutional planning must involve all departments and individuals with informa-

tion management responsibilities in order to achieve the goal of an integrated information management system.

2. The academic health center library must play a key role.
3. The academic health center should adopt the AIM concept for its library and provide the necessary resources to support the library as a modern information center.
4. Academic health center resources must be balanced against competing demands, so that the allocation of financial, technological, human, and informational resources relates directly to the academic health center's mission.
5. Academic health centers should establish, refine, and promote multi-type information networks to accomplish better information linkages among all academic health centers.
6. New methods to organize and access information should be developed and existing methods improved.
7. Informational resources in all formats must be maintained to support the special needs of each academic health center.

*Recommendations Regarding the Relationship Between the Assistant Vice President for Information Resources and the Director of the Academic Health Center Library*

The roles of the assistant vice president for information resources and the director of the academic health center library should be mutually supportive. The director of the academic health center library plans, coordinates, and provides bibliographic information resources and services. As the catalytic agent for the application of computer technology to the development of an integrated institutional information system, the assistant vice president for information resources must work closely with the director of the academic health center library to assure that the library is a principal focus in the institution's integrated information system. The director of the academic health center library and the assistant vice president for information resources must be united in their efforts to provide those in the academic health center with an electronically up-to-date information resource as their library. This library will, in turn, serve as an access point for all institutional databases: research, clinical, administrative, and bibliographic. The chief administrative officer, the assistant vice president for information resources, the director of

the academic health center library, and the faculty should work together to plan for the library to assume a more direct educational role in the management of academic information. That role should include teaching users how to organize, evaluate, and classify information and helping them to use information systems effectively.

*Recommendation for a Job Description for the Director of an Academic Health Center Library*

The director of the academic medical center library has a senior management position, is responsible for planning and providing the center's bibliographic informational resources and services, and assists with the planning and provision of the center's integrated information systems and services.

Detailed responsibilities:

- To direct the academic health center library, including management of human, fiscal, and other resources.
- To identify, assess, and plan for comprehensive informational resources and services needed by individuals, departments, and schools.
- To work toward the development of informational resources within the academic health center which would provide institutional linkages through the application of technology.
- To encourage the effective use of information for patient care, education, and research.
- To promote research in information organization, storage, retrieval, and transfer.
- To plan instructional programs in the concepts of information organization, storage, and retrieval; in the development of personal information systems; and in the acquisition of skills needed to access information efficiently.
- To maintain a productive relationship with the academic health center and the community at large to assure maximum availability of resources.

Qualifications:

- Thorough knowledge of the concepts of information organization, storage, retrieval, and transfer, including the application of computer and other technologies to information management.
- Extensive management experience and abilities, including strong communication, inter-

personal, financial, and problem-solving skills.

- Familiarity with the academic health center environment and the role of the library in that environment.
- Graduate degree in library or information science.

## *Responsibilities of Professional Associations and Other Agencies*

MLA and AAHSLD are developing guidelines which will assist academic health center libraries in adopting the AIM library concept. Through its professional development program, MLA provides extensive continuing education courses designed to update professional skills, to acquire specialized knowledge, and to stimulate new thoughts and attitudes.

Working with health agencies, other professional associations, library and information science schools, and academic health centers, MLA and AAHSLD play a key role in articulating standards for professional practice; in defining the knowledge, skills, and attitudes required for the practice of health sciences librarianship; and in assuming a leadership role in influencing the content and process of library and information science education in order to ensure a pool of well-trained information managers. MLA and AAHSLD serve as agents for change by focusing attention on advances in learning theory and information management techniques for the improvement of health information management as a discipline. MLA and AAHSLD also act as convening agencies for health information professionals, library and information science educators, and health care professionals to facilitate the study of properties of information as an academic discipline, of information-seeking habits, and of the application of artificial intelligence.

MLA and AAHSLD must form closer alliances

with agencies and associations which have a need for and interest in health information. It is necessary to work closely with the disciplines of library science, information science, medical informatics, data processing, management science, and individuals from the education, business, and health sciences communities to establish educational objectives, training priorities, and training mechanisms for health information managers and for those who need and use health information. The preparation of this report and the request for its endorsement is but one example of how the Medical Library Association, the Association of Academic Health Sciences Library Directors, the Association of Academic Health Centers, the Association of American Medical Colleges, the American Medical Association, and other professional associations can work together toward the goal of providing information to support patient care, education, and research.

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